Organization

Environmental Energy Technologies Division

Description

The Grid Integration Group's (GIG) microgrid team within the Environmental Energy Technologies Division is seeking a Scientific Engineering Associate with expertise in VBNet and HTML(5), as well as Java programming. The applicant should have a strong interest in graphical modules/interface programming, based on VBNet, HTML, or Java, which support the functionality of internally developed optimization models. Basic knowledge in Operations Research / MILP techniques, optimization platforms (e.g. GAMS), mathematics, engineering, are required.

This position offers a stimulating environment for working with a highly skilled interdisciplinary and multi-cultural team and will require strong motivation and excellent oral and written communication skills. Lawrence Berkeley National Laboratory is a renowned center of scientific expertise in the many facets of energy related fundamental and applied science. To learn more about our research work, please visit https://building-microgrid.lbl.gov/.

The successful candidate will develop new web-modules and databases, which expand and use the functionality of internally developed optimization models for Distributed Energy Resources (DER). The final candidate will use VBNet, HTML(5), and Java to program user interfaces for stochastic optimization modules based on project-specific constraints. Thus, this work emphasizes accessibility for microgrid users and integration of models with our web-based Graphical User Interface of the Distributed Energy Resource Customer Adoption Model (DER-CAM). Also, experience in interacting with DER-CAM clients, communities and microgrid developers is highly desired for the final candidate.

As a Scientific Engineering Associate you will:
Working under general direction:

- Support development of new graphical modules/interfaces for DER-CAM, based on VBNet, HTML, or Java which support the functionality of internally developed MILP DER-CAM models. Support the web-based Graphical User Interface design of DER-CAM and build related databases.
- Support MILP feature development within DER-CAM (new technologies, stochasticity of renewables)
- Work with DER-CAM clients, communities, and microgrid developers to improve the web version of DER-CAM and support them on tool related issues
- Perform DER-CAM user management, maintain the DER-CAM user base and resolve bugs for the users.

Qualifications:

- B.Sc in Computer Information Systems or B.Sc in electrical engineering, or equivalent experience; Masters degree or equivalent experience in these areas would be preferred

- High proficiency with VBNet, HTML(5), and Java
- High proficiency in programming Graphical User Interfaces
- Basic understanding of operations research and optimization concepts
- Proficiency with GAMS (General Algebraic Modeling System) or comparable optimization software
- High proficiency with standard analysis tools as Excel, Word, PowerPoint, Access, etc.
- Demonstrated ability in data visualization. Able to generate graphics that convey complex ideas and data elegantly.